**Grade 4 The Water Cycle**

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| **Essential Question: How do the properties of water affect living things and the natural environment?** | | | |
| Instructional Outcome: I can draw conclusions about the water cycle and its stages by explaining how water is constantly moving throughout earths system | | | |
| Language Objective (if applicable): In the stage \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_is taking place | | | |
| **Common Core Standards Met: SL.4.1, SL.4.3, SL.4.4, W.4.2** | | | |
| **Danielson Standards: 3c,d** | | | |
| **Vocabulary:**  **water cycle**-process by which water circulates between the earth’s oceans , atmosphere, and land, involving precipitation as rain and snow, drainage in steams and rivers, and return to the atmosphere by evaporation and transpiration  **evaporation**-the process of turning from liquid into vapor  **condensation**-water collects as droplets on a cold surface when humid air is in contact with it  **run-off**- the draining away of water from the surface of an area of land, a building or structure  **collection-** when water falls to Earths surface; some will soak into the ground  **precipitation**-rain, snow, sleet, hail  **sustainability**-the ability to maintain or keep something going  ground water | | | **Materials:**  Vocabulary cards  cup  shaving cream  Kid water cycle image  Ziploc baggies  Markers  food coloring  water  soil  tape  game counters  dice  game boards  The Water Cycle Game  <https://www.brainpop.com/science/earthsystem/watercycle/> |
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| **Learning Activities:** | | | |
| * **Description:** This lesson will be used to launch our first Science unit in fourth grade. The experiment and activities will give students a general understanding about the water cycle, its stages and how it moves throughout Earth’s systems. Through this lesson students will understand water is the most important component of an ecosystem and that all living organisms need water to grow and survive. This will be important later as we learn more about properties of water and how humans harm these systems as well as what we can do to conserve. * **Part 1: Done in the morning:** Show the brain Pop video <https://www.brainpop.com/science/earthsystem/watercycle/> . Explain to the students that there various stages in the water cycle that we’ll be focusing on today; evaporation, condensation, precipitation, runoff, and collection. We are going to study these stages using an experiment. The experiment is water cycle in a bag. Review learning target and vocabulary cards. * **Model:** On the Elmo lay Ziploc bag flat and tell the students the bag represents Earth/our atmosphere. On the bottom of the bag draw the ocean next to a waters edge. On the top of the bag draw the sun, and clouds. Between the water and the cloud should be arrows to show evaporation. Next to one cloud should be condensation, and the other cloud with raindrops should be labeled precipitation. There should also be a tree drawn on the surface with more arrows representing evaporation (transpiration). After the bag is labeled think aloud while constructing the environment**.** Place a thin layer of soil along the bottom of the bag (mention to students this is where ground water is stored), then fill bag a quarter of the way with warm blue water. Tape the bag to the window. We will be able to “see” the different stages of the water cycle using the bag. * **Guided:** Each student will construct a water cycle bag that will be revisited later in the day. All bags should be taped to a sunny window.   **Part 2:** After lunch (or when a few hours have passed) we will continue the science lesson. Students will record their observations in their Science notebook by answering the question “What do you notice?”. (Foggy on top of the bag, water droplets on side of bag that slide down when they are larger etc.). In the meeting area students will share some out some of their observations while the teacher records on the board.   * **Turn and Talk:** Do you think there is less water in the bag now, than there was in the morning? Explain. (share student responses and have classmates agree/disagree using hand signals. (Discuss and address misconceptions) * **Self-Assess:** How confident do you feel you can draw conclusions about the water cycle and how it moves throughout Earth’s systems? (Students show thumbs) * **Independent Work:** Prior to sending students off to independent work review the stages of the water cycle and explain activities. Students will be working on leveled games to review/ reinforce their understanding of water and the many stages it takes. * **Extension:**  Rain cloud activity to deepen understanding of condensation. * **Homework:** Personal use water chart. | | | |
| **DOK Questioning:** | | | |
| Describe the relationship between the water cycle and living things.  How does the water cycle affect the natural environment? TPS  What would happen if a part of the water cycle was missing? | | | |
| **Instructional Student Groups:** | | | |
| **Reteach**   * Water Cycle Dice Game- in small groups students roll the dice and find a fact or picture that represents the stage of the water cycle listed beside that number. Place a game marker on the fact in the table; the first student to get 4-5 in a row wins. * Of time allows students may move on to Solar One Water Cycle Game. | **Grade Level**   * Solar One Water Cycle Game: With partners, students take on the role of water and follow the prompts to travel through plants, clouds, cities, mountains, ground water, human/animals | **Enrich**   * Solar One Water Cycle Game: With partners, Students take on the role of water and follow the prompts to travel through plants, clouds, cities, mountains, ground water, human/animals. On this version of the game there will be blanks instead of the next location. Students work with partners to figure out their next destination. | |
| **Reflect and Connect: (Approx. 5 minutes)** | | | **Assessments:** |
| **Review Learning Target**  **Compete Exit Ticket: Think about your water cycle bags and the games you played. Summarize what you learned today about the water cycle and how it moves throughout the Earth.** | | | **◻ Quick Check**  ◻ Student Work ◻ Survey **◻ Feedback**  **◻ Exit Slip**  ◻ Share  ◻ Discussion **◻ Observation**  **◻ Questioning**  **◻ Rubric**  ◻ Checklist  ◻ Other: |
| **Teacher Reflection**  **Was the lesson accessible to all learners ?**  **Would could be done differently to enhance this lesson for students.** | | |  |

**Exit Ticket Below**

Name: \_\_\_\_\_\_\_\_\_\_\_\_ The Water Cycle Date:

**Think about your water cycle bags and the games you played. Explain/summarize what you learned today about the water cycle. its stages, and how it moves throughout Earth’s systems.**

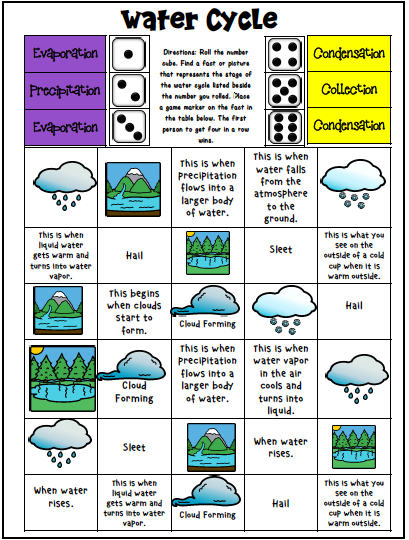
**Exit Ticket Rubric**

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| **Level 4**  Student’s explanation shows exceptional understanding of the water cycle and how water moves through Earth’s systems. Science vocabulary is included in explanation. | **Level 3**  Student’s explanation shows good understanding of the water cycle and how water moves throughout Earth’s systems. Some science vocabulary is included. | **Level 2**  Student’s explanation shows basic understanding of the water cycle and how water moves throughout Earth’s systems. Some science vocabulary is included. | **Level 1**  Student’s explanation shows limited or no understanding of the water cycle and how water moves throughout Earth’s systems. Little to no science vocabulary is included. |

**Example of Water Cycle Bag Experiment**

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**“Reteach” Group Game**

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